

## CLINICAL SCIENCE

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### THE PUBLICATION RATE OF ABSTRACTS PRESENTED AT THE 2003 UROLOGICAL BRAZILIAN MEETING

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**OBJECTIVE:** To determine the publication rate of orally-presented abstracts from the 2003 Urological Brazilian Meeting, as well as the factors determining this publication rate.

**MATERIALS AND METHODS:** The publication rate of the 313 orally-presented abstracts at the 2003 Urological Brazilian Meeting was evaluated by scanning the Lilacs, Scielo and Medline databases. The time between presentation and publication, the state and country of the abstract, the research methodology (cross-sectional, case-control, retrospective case series, prospective case series or clinical trial), whether drugs were utilized and the topic of the study were all characterized.

**RESULTS:** Thirty-nine percent of the abstracts were published after a median time of 14 months (range: 1 to 51 months). There were high publication rates for cross-sectional abstracts (75%), drug utilization studies (51.3%), clinical trials (50%) and prospective case series' (48.1%). However, there was only a moderate statistical trend towards a higher publication rate in the prospective case series ( $p=0.07$ ), while the retrospective case series' showed statistically lower publication rates than the other groups (33.7%,  $p=0.04$ ). Abstracts on laparoscopic surgery had the highest publication rate (61.9%,  $p=0.03$ ) compared to others topics. In 57% of the unpublished abstracts, there was no interest in or attempt to publish, and rejection was responsible for the lack of publication of only 4% of the abstracts.

**CONCLUSION:** The publication rate of the orally-presented abstracts from the 2003 Urological Brazilian Meeting was comparable to that of international congresses. The subsequent publication of presented abstracts and the selection of prospective studies with stronger evidence should be encouraged and may improve the scientific quality of the meeting.

**KEYWORDS:** Research; Meeting abstracts; Peer review; Congresses; Information dissemination.

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## INTRODUCTION

Original research data are traditionally brought to the attention of the scientific community in two ways: by presentation at scientific meetings and by publication in peer-reviewed journals. The presentation of oral or poster abstracts at scientific meetings is an integral part of the exchange of scientific information and is recognized as part of the scientific progress.<sup>1</sup> Presentations facilitate the prompt

dissemination of scientific knowledge without the delay associated with article publication. Further, they stimulate intellectual thinking and collaboration between scientists from all over the world.<sup>2</sup>

However, the review process for meeting abstracts examines only limited data. Therefore, if the abstract information is accepted as valid, subsequent publication in a peer reviewed journal is advised. Full text publication also enables wider dissemination of the study because congress abstracts are typically not indexed in databases such as PubMed. Failure to make the findings of trials available by publication may lead to the unnecessary duplication of research as well as compromising the results of subsequent systematic reviews or meta-analyses.<sup>3</sup> Differences between data presented in meeting abstracts and in full-length journal

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articles have been observed and studies have reported as many as 45% of cases contain major important differences between the presented abstract and the final publication. These differences can have major clinical implications, as clinicians sometimes use the information from abstracts presented at conferences in the decision-making process.<sup>2,4</sup>

In a Cochrane Library review of publication rates following abstract presentations, 45% (range: 11 to 78%) of 15,985 abstracts presented at 46 different meetings were subsequently published. Considering only randomized clinical trials, this publication rate rises to 58%.<sup>4</sup>

The aim of our study is to determine the publication rate of abstracts that were orally-presented at the 2003 Urological Brazilian Meeting, as well as the factors related to the publication rate.

## MATERIAL AND METHODS

At the 2003 Urological Brazilian Meeting, 1,400 abstracts were presented, of which 313 were submitted for oral presentation, 596 were commented posters, 238 were uncommented posters and 155 were videos. The abstracts of the 313 orally presented studies, published in the annals of the Congress, were evaluated in this study. Similar to previous publications, we have evaluated only orally-presented abstracts based on the fact that these are the most relevant studies from the Brazilian Meeting. Table 1 shows how the scientific commission of the orally-presented abstracts divided them according to topic. Table 2 shows the divisions according to the country of origin and, in the case of Brazilian abstracts, the state of origin.

Using the names of the authors of the abstracts, the subsequent publication rate for the 313 abstracts through August 2008 was evaluated by scanning the Lilacs and Scielo databases using the BVS server (<http://www.bireme.br>) as well as the Medline database, using the PubMed server ([www.ncbi.nlm.nih.gov/PubMed/](http://www.ncbi.nlm.nih.gov/PubMed/)).

In the cases for which the abstract was not found in the databases, email and phone contact were made to confirm the lack of publication, as well as to identify the reason. Reasons for the absence of publication were categorized as: rejection of the study, responsibility of another author, awaiting a larger series, under review by the journal, no attempt to publish or other reasons.

After verifying the abstracts that were subsequently published, the time interval between presentation and publication completion, as well as the journal of publication were determined. Comparisons were made between the published and unpublished studies according to the following variables: a) origin of the authors, comparing both national and international abstracts and, more specifically,

**Table 1** - Abstract classification according to topic with respective publication rate and statistical comparison (P-value) between the publication rate of the topic against the others topics

Topic	N	Publication rate	P
<b>General</b>	<b>313</b>	39%	
<b>Oncology (Prostate)</b>	53	30.1%	0.12
<b>Neurology and Incontinence</b>	46	34.7%	0.44
<b>Pediatric Urology</b>	34	52.9%	0.12
<b>Infertility</b>	27	51.8%	0.12
<b>Laparoscopic Surgery</b>	<b>21</b>	<b>61.9%</b>	<b>0.03</b>
<b>Sexual Dysfunction</b>	20	45%	0.80
<b>Transplant</b>	19	42.1%	0.84
<b>Endourology and Lithiasis</b>	15	20%	0.11
<b>Oncology (Bladder / Excretion system)</b>	14	50%	0.47
<b>Oncology (Kidney)</b>	8	12.5%	0.22
<b>Urodynamics</b>	8	25%	0.68
<b>Urethra and Sphincter</b>	8	37.5%	0.83
<b>Urethra</b>	8	37.5%	0.23
<b>Miscellanea</b>	7	57.1%	0.57
<b>Urinary Infection / STD</b>	7	28.5%	0.83
<b>Benign Prostate Hyperplasia</b>	6	33.3%	0.92
<b>Oncology (Penis / Testicle)</b>	6	33.3%	0.92
<b>Urgencies and Traumas</b>	6	16.7%	0.47

P: level of significance calculated by the Chi-Square Test.

When the publication rate is less than 39% (the total publication rate), the P-value analyses the negative association between the factor and the publication rate. For rates higher than 39%, the P-value analyses the positive association.

abstracts from Sao Paulo and other states; b) methodology of the study, classified as: cross-sectional, case-control, retrospective case series, prospective case series or clinical trial; c) abstracts with or without drug utilization; d) clinical vs. pre-clinical studies; and e) topic of publication.

Statistical analysis was performed via Chi-Square and Fisher exact tests using a  $p < 0.05$  level of significance with the Epi Info 3.4.3 software program.

## RESULTS

As of August 2008, 39% of the 313 orally presented abstracts were published, as determined through the MEDLINE, LILACS and SCIELO databases together. Using only the MEDLINE database, the publication rate was 36%.

Of the published articles, 21.2% of publications took place prior to the congress. The median time for post-

**Table 2** - Classification of abstracts according to country and Brazilian state of origin

Country	State	N	(%)
Brazil		300	95.8%
	São Paulo	196	62.7%
	Rio de Janeiro	41	13.1%
	Rio Grande do Sul	22	7.1%
	Paraná	14	4.5%
	Bahia	6	1.9%
	Distrito Federal	5	1.6%
	Minas Gerais	5	1.6%
	Ceará	4	1.3%
	Maranhão	2	0.6%
	Rio Grande do Norte	2	0.6%
	Goiás	1	0.3%
	Pernambuco	1	0.3%
	Santa Catarina	1	0.3%
USA	--	5	1.6%
FRANCE	--	4	1.3%
SPAIN	--	1	0.3%
HOLLAND	--	1	0.3%
ENGLAND	--	1	0.3%
PORTUGAL	--	1	0.3%
TOTAL		313	100%

meeting publication was 14 months (range: 1 to 51 months). The articles were published in 46 different journals; however, 47% were published in three specific journals: International Brazilian Journal of Urology (26%), Journal of Urology (12%) and British Journal of Urology (9%). Urological journals accounted for 81.2% of all publications. The majority of articles were published in English-language journals: 84% were written in English, 15.2% were written in Portuguese, and the remaining articles were written in Italian, French and Spanish.

Despite the higher publication rate of international studies and studies from Sao Paulo, there was no significant statistical difference between publication rates of national vs. international abstracts (Table 3). Regarding the methodology of the research, there was a high publication rate for cross-sectional studies (75%), those that utilized drugs (51.3%), clinical trials (50%) and prospective case series (48.1%). However, there was only a statistical trend towards significance in the positive association between the publication rate and prospective case series ( $p=0.07$ ). There was a significant negative association between the publication rate and retrospective case series (33.7%,  $p=0.04$ , Table 3). When analyzed by topic (Table 1), studies

**Table 3** - Abstract publication rate for different factors and statistical analysis (P-value) of the association between the factor and the publication rate

Factors	N	Published N (Rate)	P
General	313	122 (39%)	
Brazilian	300	116 (38.6%)	0.57
Non-Brazilian	13	7 (53.8%)	
From São Paulo	196	80 (40.8%)	0.42
From others states	104	36 (34.6%)	
Cross-sectional	4	3 (75%)	0.33
Clinical trials	16	8 (50%)	0.38
Prospective Case series	83	40 (48.1%)	0.07
Case-control	18	7 (38.8%)	0.94
Pre-clinical	25	9 (36%)	0.70
Retrospective Case series	166	56 (33.7%)	0.04
Drugs	37	19 (51.3%)	0.12

P: level of significance calculated by the Chi-Square test.

When the publication rate is less than 39% (the total publication rate), the P-value analyses the negative association between the factor and the publication rate. For rates higher than 39%, the P-value analyses the positive association.

**Table 4** - Reason for lack of publication

Reason for lack of publication	(%)
There was no attempt to publish	57%
Awaiting a larger sample	16%
Under review by journal	11%
Responsibility of another author	7%
Other	7%
Study rejected	4%

classified as laparoscopic surgery were the only ones to present a positive association with a higher publication rate (61.9%,  $p=0.03$ ).

Authors of 80.5% of the unpublished studies responded to the questionnaire regarding the reason for lack of publication (Table 4). Fifty-seven percent of the respondents claimed no interest or attempt to publish, while only 4% of the authors cited rejection of the study as the reason for the absence of a publication.

## DISCUSSION

The publication rate of abstracts presented at congresses varies from 11 to 78%, according to a Cochrane review.<sup>4</sup> There is a higher publication rate of abstracts presented at international, American and European meetings, with emphasis on conferences in the following specializations:

ophthalmology (68%), oncology (56%) and pediatrics (53.8%).<sup>5-7</sup> The European Urology Congress had a publication rate of 47.3% during 2000 and 2001, while the publication rate of the studies presented at the American Urological Association annual meeting in 2000 was 59%.<sup>8,9</sup> The publication rate of studies presented at the XXIV Brazilian Surgery Congress in 2001 was only 2%.<sup>10</sup> These differences in publication rate may reflect a combination of the quality of the congress, the quality of the studies, and the ability of the organizers to select the most relevant abstracts.<sup>7</sup> We can classify the Meeting of the Brazilian Society of Urology as a congress of national impact, with little foreign participation (only 4.2% of the studies presented). Thus, the 39% publication rate we recorded may be considered high for a national congress, even approaching the publication rates of studies presented at international congresses in the areas of radiology (33%) and anesthesia (42.2%).<sup>4,11</sup>

The choice of the 2003 Brazilian Urology Congress to study the publication rate of presented abstracts was made based on the observation that 90% of articles are published within 3 years of presentation, with a substantial decrease in publication rate after that time.<sup>13</sup> Our study detected a median publication time of 14 months, which is comparable with the average publication time for international congresses. The mean interval for the publication of abstracts accepted for presentation at the 2000 and 2001 European Association of Urology annual meetings was 8.6 months. In most cases, the reports were published in either *The Journal of Urology* or *European Urology*. In international congresses of ophthalmology and orthopedics, the mean intervals between presentation and publication were 13 and 16 months,<sup>4</sup> respectively.

Factors independent of the quality of the research may influence the likelihood of subsequent publication, a phenomenon called publication bias.<sup>13,14</sup> Thornton et al. noted that abstracts with positive results are more likely to be published, causing bias in systematic reviews or meta-analyses through overestimation of treatment effects. In the same study, some studies possibly overestimated the precision of a radiological technique, potentially contributing to easier publication.<sup>4</sup> Cartwright et al. found that articles whose research involved the use of drugs presented a significantly higher rate of publication compared to those that did not; this finding was also verified in our study, in which studies using drugs presented a publication rate of 51.3%.<sup>3</sup> The pharmaceutical industry's interest in the publication of studies involving drugs constitutes an additional incentive for the publication of these abstracts and dissemination of this type of research.

The type of research can also influence the publication rate of abstracts. Autorino et al. concluded that pre-

clinical research studies were more likely to be published than clinical studies (53.3% vs. 45%,  $p < 0.05$ ) and that prospective series were more often published than retrospective ones (46.5% vs. 32.2%,  $p < 0.05$ ).<sup>8</sup> Despite the lack of statistical significance (likely due to the small sample size), we likewise obtained a higher publication rate for cross-sectional studies, prospective clinical trials and prospective case series. Conversely, retrospective case series were statistically associated with a lower publication rate (33.7%). Of the studies presented, 53.0% were retrospective case series, an approach that provides the least amount of evidence and is not the most valued for publication. In fact, these studies have a low level of acceptance for presentation at the most important congresses.<sup>9</sup> If we exclude these studies, then the overall publication rate would climb to 44.9%. The selection of studies with a higher level of evidence would improve the quality of the Brazilian Congress, elevating it to the level of an international meeting. Studies on laparoscopic surgery have a statistically higher publication rate (61.9%). Laparoscopic surgery and, more recently, robotic surgery, are the cutting edge of innovation in urological surgery and attract the most interest in scientific dissemination, explaining the higher publication rate.

However, the principal reasons identified for the absence of publication of a presented abstract were lack of interest or attempts to publish by the authors; only 10% of authors were awaiting a review by journals, and only 4% of the articles were unpublished because they had been rejected. This lack of interest and motivation can have negative repercussions for both the quality of global scientific production, as well as for its dissemination. Of the authors who presented abstracts at the Society for Academic Emergency Medicine and did not publish their studies, only 20% had submitted their studies to a journal. The lack of submission occurred for the following stated reasons: there was not enough time (42%), manuscript acceptance was thought to be unlikely (20%), the results of the study were not believed to be important enough (12%), there was too much trouble with the co-authors (9%), it was not worth the trouble to submit the study (7%), there were other articles describing similar findings (6%), the results of the statistical analysis were not positive (4%), and other reasons (22%).<sup>12</sup> With regards to the unpublished studies presented at the International Continence Society Meeting in 2003, authors gave the following reasons: lack of interest from journals (30.4%), preliminary study, waiting for a larger series (26.4%), no time (26.4%), still in the process of submission (17.4%), and responsibility for publication lay elsewhere (13%).<sup>3</sup>

This study demonstrated the concentration of domestic scientific production in the Southeast region, specifically in the state of Sao Paulo. Almost 2 in every 3 studies were

performed in Sao Paulo. This concentration may reflect the fact that there is a greater concentration of universities in the southeast. Additionally, the region provides greater incentives for research and interest in the diffusion of scientific knowledge. Finally, the greater concentration of individuals of higher economic standing in this area may contribute to the scientific productivity of Sao Paulo. This finding draws attention to the need to decentralize scientific production, spread out graduate centers to train regional researchers and better distribute financing for research activities.

## CONCLUSION

The publication rate of the orally-presented abstracts

from the 2003 Urological Brazilian Meeting was comparable to that of international congresses, which demonstrates the quality of the studies presented. However, the concentration of this scientific production in the Southeast region is evident, showing the need for academic decentralization. Prospective studies with a higher level of evidence are most often published because they are less likely to be biased. Retrospective studies had the lowest publication rate but were the most frequent abstracts submitted to the 2003 Brazilian Congress. Rejection of studies is a minor reason for the lack of publication, a fact that should motivate researchers to attempt publication. The lack of attempted article submission is the strongest barrier to the dissemination of scientific knowledge.

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